Amendments to the Specification:

Please replace the paragraph at page 4, lines 19-25 with the following paragraph:

Figure 9 is a plot demonstrating the effects of added rhFXIII and added sucrose on the compaction behaviour of rhFS. The behaviour of FS using plasma-derived Fbgn (hFbgn) is given as a reference. The data are plotted as the % of the original volume occupied by the sealant after centrifugation. The rhFXIII concentration is given as the ~~ration~~ ratio of rhFXIII to rhFibrinogen (μg/mg). Conditions of the assay: TBS (20mM Tris-HCl, pH7.4, 120mM $CaCl_2$, 2.5 mg/ml rhFbgn, 0.5 U/ml rhThrombin. The samples were incubated at 37°C for 1hr, prior to centrifugation for 45 sec at 8000 xg.

Please replace the paragraph at page 8, lines 24-31 with the following paragraph:

The complete characterisation of an rhFS includes both the biochemical characterisation of its individual protein components and the functional characterisation of the combined product. The enzymatic components of rhFS, rhThrombin and rhFXIII, can be purified to homogeneity and accurately characterised with respect to their identity, purity, and specific activity. Consequently, their behaviour as components of rhFS is, by means of the invention, very predictable. In contrast, rhFbgn is obtained as a heterogeneous population of related species, and its behaviour as the principal component of rhFS is less ~~predicable~~ predictable *a priori*, but can be readily characterised.

Please replace the paragraph at page 16, lines 15-21 with the following paragraph:

The effects of ionic strength (added NaCl) and sugars (added sucrose or sorbitol) on the properties of rhFS were examined. Both added NaCl and sugar decreased compaction in a synergistic manner (**Figure 6**). Concomitantly, stiffness as measured by TEG increased, and opacity as measured by OD, decreased. Additionally, ~~b9oth~~ both added NaCl and sugar tended to increase clot times. When rhThrombin concentration was increased to compensate for the increased clot time, additional increases in stiffness and ~~decreased~~ decreases in OD were observed. In concert, this behaviour indicated that the rhFS was shifting towards a finer gel structure.

Please replace the paragraph at page 18, lines 16-26 with the following paragraph:

Rheometry confirmed that the rhFXIII-induced increase in stiffness observed using TEG extrapolates to high rhFbgn concentration rhFS. With the rheometer, the actual elastic

modulus (G'), rather than a signal amplitude, was measured as a function of the rhFXIII concentration. The dose-response curve is non-linear, as was observed with the TEG. In ~~additional~~ addition to the increase in modulus, the shear rupture strength of the rhFS is increased dramatically by the addition of ~~rhFS~~ rhFXIII. The highest value on the rupture stress vs. rhFXIII/rhFbgn ratio curve (**Figure 12**) represents the high stress limit of the rheometer, so the dose-dependent effect of rhFXIII on the rupture stress of rhFS above 10 μg rhFXIII/mg rhFbgn was not determined. While the significance of the elastic modulus to the *in vivo* function of rhFS is difficult to discern, the increase in rupture stress afforded by the addition of rhFXIII should be relevant to *in vivo* applications, such as skin graft fixation.

Please replace the paragraph at page 19, lines 16-22 with the following paragraph:

The effect of rhFXIII on the degradation rate of rhFS was also evaluated. As with "strength", degradation rate is a functional property that holds great perceived significance. This is in spite of the fact that the properties of the surrounding tissue, in addition to those of the rhFS itself, will determine the degradation rate, and that there are no studies correlating degradation rate with *in vivo* efficacy. Previous studies by Edwards *et al.* ~~And~~ and by Siebenlist and Mosesson have demonstrated that FXIII decreases the rate of fibrinolysis in a ~~dose-dependent~~ dose-dependent manner (Edwards, et al., 1993, Siebenlist and Mosesson, 1994).

Please replace the paragraph at page 26, line 31 with the following paragraph:

10. Determination of Gelation Rate and Gel Properties by Parallel ~~Plat~~ Plate Rheometry